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THE LATIN PSEUDO-ARISTOTLE AND MEDIEVAL OCCULT SCIENCE

The immense influence of Aristotle upon medieval learning has long been recognized, and sometimes unduly emphasized. The tendency to speak of it in sweeping generalities has been largely due to a lack of detailed research on the subject based upon the medieval manuscripts themselves. Take, for example, the medieval Latin translations of the works of Aristotle generally received as genuine. The only investigation of the problem as a whole is that of Jourdain made a century ago and now quite inadequate.¹ Since then the translations of two or three individual works have been separately investigated,² but the recent work of Grabmann,³ while more general in scope, omits the twelfth century entirely and is in the main a disappointing compilation. If so little real attention has been given to translations of the genuine works of Aristotle, still less have the writings of the Pseudo-Aristotle been satisfactorily investigated and surveyed.⁴ In this article I propose to give some account—based chiefly upon the medieval manuscripts themselves, although in some cases the works have been printed in early editions—of those works of the Pseudo-Aristotle which deal with natural and more especially occult science. It is these that are most closely connected with the Alexander legend and from which the vernacular literature on Alexander doubtless borrowed

¹ Amable Jourdain, *Recherches critiques sur l'age et l'origine des traductions latines d'Aristote*, Paris, 1819; 2nd edition, 1843.

² Such as P. Duhem, "Du temps où la scolastique latine a connu la physique d'Aristote," in *Revue de philosophie*, (1909) pp. 163-78; and C. H. Haskins, "Medieval Versions of the Posterior Analytics," in *Harvard Studies in Classical Philology*, XXV (1914) pp. 87-105.

³ Martin Grabmann, *Forschungen über die lateinischen Aristoteles-Uebersetzungen des XIII Jahrhunderts*, Münster, 1916. He gives but three pages to the Pseudo-Aristotle.

⁴ The works of V. Rose, *Aristoteles Pseudepigraphus* and *De ordine et auctoritate librorum Aristotelis*; Munk's article, "Aristote" in *La France littéraire*; Schwab, *Bibliographie d'Aristote*, Paris, 1896; R. Shute, *History of the Aristotelian Writings*, Oxford, 1888; are largely limited to antiquity and in so far as they deal with the Pseudo-Aristotle at all, scarcely reach the middle ages.

some of its stories.⁵ It is indeed very difficult to distinguish works of occult science ascribed to Alexander from those attributed to Aristotle or to distinguish the stories told of Alexander in the works of the Pseudo-Aristotle from those found elsewhere. I shall therefore include some of both of these. I do not, however, intend to include here the early medieval stories of Alexander and Nectanebus in the Pseudo-Callisthenes, Julius Valerius and his epitomes, the Letter of Alexander to Aristotle on the marvels of India, and so on. These early medieval Greek and Latin bases of the medieval Alexander legend have been much studied and discussed. My study is rather of twelfth and thirteenth century Latin treatises ascribed to Aristotle and Alexander which have been largely neglected.⁶

It is not surprising that many spurious works were attributed to Aristotle in the middle ages, when we remember that his writings came to them for the most part indirectly through corrupt translations, and that some writing from so great a master was eagerly looked for upon every subject in which they were interested. It seemed to them that so encyclopedic a genius must have touched on all fields of knowledge and they often failed to realize that in Aristotle's time the departments of learning had been somewhat different from their own and that new interests and doctrine had developed since then. There was also a tendency to ascribe to Aristotle any work of unknown or uncertain authorship. At the close of the twelfth century Alexander Neckam⁷ lists among historic instances of envy Aristotle's holding back from posterity certain of his most subtle writings, which he ordered should be buried with him. At the same time he so guarded the place of his sepulcher, whether by some force of nature or power of art or prodigy of

⁵ Ch. Gidel, "La Légende d'Aristote au moyen âge," in *Assoc. des études grecques*, (1874) pp. 285-332, except for the Pseudo-Callisthenes uses only the French vernacular literature or popular legends concerning Aristotle. Similar in scope is W. Hertz, "Aristoteles in den Alexanderdichtungen des Mittelalters," in *Abhandl. d. philos.-philol. Classe d. k. bayr. Akad. d. Wiss.*, XIX (1892) pp. 1-103; revised in W. Hertz, *Gesammelte Abhandlungen*, 1905, pp. 1-155.

⁶ G. H. Luquet, who wrote on "Aristote et l'université de Paris pendant le XIII^e siècle" in *Bibl. hautes études, Sciences relig.*, XVI, 2, 1904, announced a general work on the knowledge of Aristotle's writings and teachings in the middle ages, but it does not seem to have appeared.

⁷ *De naturis rerum*, II, 189.

magic is uncertain, that no one has yet been able to approach it, although some think that Antichrist will be able to inspect these books when he comes. Roger Bacon in the thirteenth century believed that Aristotle had written over a thousand works and complained bitterly because certain treatises, which were probably really apocryphal, had not been translated into Latin.⁸ Indeed, some of the works ascribed to Aristotle in the Oriental and Mohammedan worlds were never translated into Latin, such as the astrological *De impressionibus coelestibus* which Bacon mentions, or the Syriac text which K. Ahrens edited in 1892 with a German translation as "Das Buch der Naturgegenstände," or first appeared in Latin guise after the invention of printing, as was the case with the so-called *Theology* of Aristotle,⁹ a work which was little more than a series of extracts from the *Enneads* of Plotinus.¹⁰ Some of the treatises attributed to Aristotle which were current in medieval Latin do not bear especially upon our investigation, such as the *Grammar* which Robert Grosseteste is said to have translated from the Greek.¹¹

For our purposes the Pseudo-Aristotelian writings may be sub-divided under seven heads: experiment, alchemy, astrology, spirits, occult virtues of stones and herbs, chiromancy and physiognomy, and last the famous "Secrets of Secrets." Under the first of these heads may be put a treatise on the conduct of waters, which consists of a series of experiments in syphoning and the like illustrated in the manuscript by lettered and colored figures and diagrams.¹² In a Vatican manuscript it is perhaps more correctly ascribed to Philo of Byzantium.

⁸ *Compendium Studii Philosophiae*, ed. Brewer, (1859) p. 473.

⁹ It was translated into Arabic about 840 A.D.; an interpolated Latin paraphrase of it was published at Rome in 1519, by Pietro Niccolo de' Castellani,—*Sapientissimi Aristotelis Stagiritae Theologia sive mistica philosophia, secundum Aegyptios noviter reperta et in latinam castigatissime redacta*; a French version appeared at Paris in 1572 (Carra de Vaux, *Avicenne*, p. 74). F. Dieterici translated it from Arabic into German in 1883, after publishing the Arabic text for the first time in 1882. For divergences between this Arabic text and the Latin one of 1519, and citation of Baumgartner that the *Theology* was known in Latin translation as early as 1200, see Grabmann (1916), pp. 245-7.

¹⁰ Indeed Carra de Vaux, *Avicenne*, p. 73 says, "Tout un livre qui ne contient en réalité que des extraits des Enneades IV à VI de Plotin."

¹¹ See Arundel MS. 165, 14th century.

¹² Sloane MS. 2039, fols. 110-13.

From experiment to alchemy is an easy step, for the alchemists experimented a good deal in the period which we are now considering. The fourth book of the *Meteorology* of Aristotle, which, if not a genuine portion of that work, at least goes back to the third century before Christ,¹³ has been called a manual of chemistry,¹⁴ and apparently is the oldest such extant. Its doctrines are also believed to have been influential in the development of alchemy; and there were passages in this fourth book which led men later to regard Aristotle as favorable to the doctrine of the transmutation of metals. Gerard of Cremona had translated only the first three books of the *Meteorology*; the fourth was supplied from a translation from the Greek made by Henricus Aristippus who died in 1162; to this fourth book were added three chapters translated by Alfred of England or of Sarchel from the Arabic,¹⁵ apparently of Avicenna.¹⁶ These additions of Alfred from Avicenna discussed the formation of

¹³ Hammer-Jensen, "Das sogenannte IV Buch der Meteorologie des Aristoteles," in *Hermes*, vol. 50 (1915) pp. 113-36, argues that its teachings differ from those of Aristotle and assigns it to Strato, his younger contemporary. Not content with this thesis, which is easier to suggest than to prove, Hammer-Jensen contends that it was a work of Strato's youth and that it profoundly influenced Aristotle himself in his last works. "The convenient Strato!" as he is called by Loveday and Forster in the preface to their translation of *De coloribus* (1913) vol. VI of *The Works of Aristotle* translated into English under the editorship of W. D. Ross.

¹⁴ So Hammer-Jensen, p. 113 and earlier Heller (1882) 1, 61.

¹⁵ Nürnberg Stadtbibliothek (centur. V, 59, membr. 13th century)—cited by Rose, *Hermes* 1, 385—"Completus est liber metheorum cuius tres primos libros transtulit magister Gerardus Lombardus summus philosophus de arabico in latinum. Quartum autem transtulit Henricus Aristippus de greco in latinum. Tria ultima capitula transtulit Aluredus Anglicus sarensis de arabico in latinum."

Steinschneider (1893) pp. 59 and 84; (1905) p. 7; and others, including Hammer-Jensen, give the name of the translator of the fourth book from the Greek as Hermann and of the last three chapters as Aurelius, whom Steinschneider is more correct in describing as "otherwise unknown." On the other hand, we know that Aristippus and Alfred translated other Aristotelian treatises. Evidently Steinschneider and the others have followed MSS where the copyist has corrupted the proper names.

¹⁶ Steinschneider and Hammer-Jensen quote from MSS, "tria vero ultima Avicennae capitula transtulit Aurelius de arabico in latinum." Albertus Magnus, *Mineral*, III, i, 9, also ascribed the passage to Avicenna; others have suggested that it is by disciples of Avicenna. See J. Wood Brown (1897) pp. 72-3, for a similar passage from Avicenna's *Sermo de generatione lapidum*.

metals but attacked the alchemists.¹⁷ Vincent of Beauvais¹⁸ and Albertus Magnus¹⁹ were both aware, however, that this attack upon the alchemists was probably not by Aristotle. The short treatise *On colors*,²⁰ which is included in so many medieval manuscript collections of the works of Aristotle in Latin,²¹ by its very title would suggest to medieval readers that he had been interested in the art of alchemy, although its actual contents deal only in small part with dyes and tinctures. Its form and contents are not regarded as Aristotle's but it was perhaps by someone of the Peripatetic school. Thus works which, if not by Aristotle himself, at least had been written in Greek long before the medieval period, gave medieval readers the impression that Aristotle was favorable to alchemy.

It is therefore not surprising that works of alchemy appeared in medieval Latin under Aristotle's name. The names of Plato and Aristotle had headed the lists of alchemists in Greek manuscripts although no works ascribed to Aristotle have been preserved in the same. Berthelot, however, speaks of a pseudo-Aristotle in Arabic,²² and in an Oxford manuscript of the thirteenth century under the name of Aristotle appears a treatise *On the twelve waters of the secret river* said to be "translated

¹⁷ They were printed at Bologna, 1501, as *Liber de mineralibus Aristotelis* and also published, sometimes as Geber's sometimes as Avicenna's, under the title, *Liber de congelatione*.

BN 16142 contains a Latin translation of the four books of the *Meteorology* with an addition dealing with minerals and geology which is briefer than the printed *Liber de mineralibus Aristotelis*, omitting the passage against the alchemists: published by F. de Mély, *Rev. des Études grecques*, (1894) p. 185 et seq. (cited Hammer-Jensen, 131).

¹⁸ *Speculum naturale*, VIII, 85.

¹⁹ See note 16 above.

²⁰ Greek text by Prantl, Teubner, 1881; English translation by Loveday and Forster, 1913. See also Prantl, *Aristoteles über die Farben*, 1849.

²¹ Just a few examples are: Mazarine 3458 and 2459, 13th century; 3460 and 3461, 14th century; Arsenal 748A, 15th century, fol. 185; BN 6325, 14th century, No. 1; BN 14719, 14-15th century, fol. 38-; BN 14717, end 13th century; BN 16633, 13th century, fol. 102-; S. Marco, 13th century, beautifully illuminated, fols. 312-17; Assisi 283, 14th century, fol. 289-; Volterra 19, 14th century, fol. 196-.

²² Berthelot (1885) p. 143, "Platon et Aristote sont mis en tête de la liste des alchimistes œcuméniques sans qu'aucun ouvrage leur soit assigné."

²³ Berthelot (1888) I, 76; citing Manget, *Bibl. Chemica*, I, 622.

from Arabic into Latin.”²⁴ In the preface the author promises that whoever becomes skilled, adept, and expert in these twelve waters will never lose hope nor be depressed by want. He regards this treatise as the chief among his works, since he has learned these waters by experiment. They are all chemical rather than medical; a brief “chapter” or paragraph is devoted to each. In another manuscript at the Bodleian two brief tracts are ascribed to Aristotle; one describes the seven metals, the other deals with transmutation.²⁵ In a single manuscript at Munich both a theoretical treatise in medicine and alchemy and a *Practica* are attributed to Aristotle, and in two other manuscripts he is credited with the *Book of Seventy Precepts* which sometimes is ascribed to Geber.²⁶ Thomas of Cantimpré cites Aristotle in the *Lumen luminum* as saying that the best gold is made from yellow copper ore and the urine of a boy, but Thomas hastens to add that such gold is best in color rather than in substance.²⁷ The translation of the *Lumen luminum* is ascribed both to Michael Scot and brother Elias.²⁸ Aristotle is quoted several times in *De alchimia*, ascribed to Albertus Magnus, but only in

²⁴ Digby 162, 13th century, fols. 10v-11v, “Incipit liber Aristotelis de aquis secreti fluminis translatus ab arabico in latinum.” In the margin the twelve waters are briefly designated: 1 rubicunda, 2 penetrativa, 3 mollificativa, et ingrediente, 4 de aqua eiusdem ponderis et magnitudinis, 5 ignita, 6 sulphurea, 7 aqua cineris, 8 aurea, etc. In one or two cases, however, these heads do not quite apply to the corresponding chapters.

²⁵ Ashmole 1448, 15th century, pp. 200-202, de “altitudinibus, profundis, lateribusque,” metallorum secundum Aristotelem (name in the margin). It opens, “Plumbum est in altitudine sua ar. nigrum.” It takes up in turn the *altitudo* of each metal and then discusses the next quality in the same way.

Ibid., pp. 239-44, opens, “Arestotilus, Cum studii etc. Scias preterea quod propter longitudes”; at p. 241 it treats “de purificatione solis et lune” (i. e. gold and silver), at p. 243, “de separatione solis et lune.” It ends with a paragraph about the composition of a golden seal.

²⁶ CLM 12026, 15th century, fol. 46-, “Alchymia est ars docens. Explicit dicto libri (*sic*) Aristotelis de theorica in rebus naturalibus; fol. 78, Liber Aristotelis de practica summae philosophiae, “Primo de separatione salis communis. . . .”

CLM 25110, 15th century, fols. 211-45, Liber Aristotelis de 70 preceptis.

CLM 25113, 16th century, fols. 10-28, A. de alchimia liber qui dicitur de 70 preceptis.

²⁷ Egerton 1984, fol. 141v; in the *De natura rerum*.

²⁸ Riccardian MS. 119, fols. 35v and 166r.

the later "Additions" to it, where Roger Bacon also is cited, is the specific title *Liber de perfecto magisterio* given as Aristotle's.²⁹ Sometimes works of alchemy were very carelessly ascribed to Aristotle, when it is perfectly evident from the works themselves that they could not have been written by him.³⁰

The alchemical discoveries and writings ascribed to Aristotle are often associated in some way with Alexander the Great as well. In one manuscript John of Spain's translation of the *Secret of Secrets* is followed by a description of the virtues and compositions of four stones "which Aristotle sent to Alexander the Great."³¹ It seems obvious that these are philosopher's stones and not natural gems. The *Liber ignium* of Marcus Grecus, composed in the thirteenth or early fourteenth century, ascribes to Aristotle the discovery of two marvelous kinds of fires. One, which he discovered while traveling with Alexander the king, will burn for a year without cessation. The other, in the composition of which observance of the dog-days is requisite, "Aristotle asserts will last for nine years."³² A collection of chemical experiments by a Nicholas, perhaps de Bodlys and of Poland and Montpellier, gives "a fire which Aristotle discovered with Alexander for obscure places."³³ A letter of Aristotle to Alexander in a collection of alchemical tracts is hardly worth noting, as it is only seven lines long, but it is interesting to observe that it cites Aristotle's *Meteorology*.³⁴ Perhaps by a mistake one or

²⁹ Caps. 22 and 57. It was printed with further "Additions" of its own in 1561 in *Verae alchemiae artisque metallicaе citra aenigmata*, Basel, 1561, 11, 188-225.

³⁰ Thus in *Auriferae artis quam chemiam vocant antiquissimi authores*, Basel, 1572, pp. 387-99, a treatise which cites Morienus, Rasis, and Avicenna is printed as *Tractatulus Aristotelis de Practica lapidis philosophici*. Apparently the only reason for ascribing it to Aristotle is that it cites "the philosopher" in its opening sentence, "Cum omne corpus secundum philosophum aut est elementum aut ab elementis generatum."

³¹ Laud Misc. 708, 15th century, fol. 54.

³² Berthelot (1893) I, 105 and 107.

³³ Ashmole 1448, 15th century, p. 123.

³⁴ Ashmole 1450, 15th century, fol. 8, "Epistola ad Alexandrum. O Alexander rector hominum. . . . et audientes non intelligant."

Harleian 3703, 14th century, fols. 41r-42r, Aristoteles ad alexandrum. "In primo o elaxandor tradere tibi volo secretorum maximum secretum. . .," is a similar treatise.

two alchemical treatises are ascribed to Alexander rather than Aristotle.³⁵

Aristotle's genuine works give even more encouragement to the pretensions of astrology than to those of alchemy. His opinion that the four elements were insufficient to explain natural phenomena and his theory of a fifth essence were favorable to the belief in occult virtue and the influence of the stars upon inferior objects. In his work on generation³⁶ he held that the elements alone were mere tools without a workman; the missing agent is supplied by the revolution of the heavens. In the twelfth book of the *Metaphysics* he describes the stars and planets as eternal and acting as intermediaries between the prime Mover and inferior beings. Thus they are the direct causes of all life and action in our world. Charles Jourdain regarded the introduction of the *Metaphysics* into western Europe at the opening of the thirteenth century as a principal cause for the great prevalence of astrology from that time on, the other main cause being the translation of Arabian

³⁵ Ashmole 1384, mid 14th century, fols. 91v-93r, "Incipit Epistola Alexandri. Dicunt philosophi quod ars derivata sit ex creatione hominis cui omnia insunt . . . / . . . ex omni specie et colore nomine. Explicit epistola Alexandri." In the text itself, which is written in the manner of a master to a disciple, there is nothing to show that the work is by Alexander rather than Aristotle.

The following is apparently the same treatise but the closing words are different.

Riccard. 1165, 15th century, fols. 161-3, Liber Alexandri in scientia secretorum nature. "Dicitur quod hec ars derivata sit ex creacione hominis cui omnia insunt . . . / . . . et deo annuente ad optatum finem pervenies."

The next would seem to be another treatise than the foregoing.

Arezzo 232, 15th century, fols. 1-14, "Liber transmissus ab Alexandro rege ex libro Hermogenis."

Hermogenes, who is cited on the subject of the philosopher's stone in at least one MS of the Secret of Secrets (Bodleian 67, fol. 33v, "Et pater noster Hermogenes qui triplex est in philosophia optime philosophando dixit"), is apparently none other than Hermes Trismegistus. He is also mentioned in a brief work of *Aristotle to Alexander*; Harleian 3703, 14th century, fols. 41r-42r, ". . . hermogenes quod (*sic*) egypti multum commendunt et laudant et sibi attribuant omnem scientiam secretam et celerem (?)." The use of the reflexive pronoun in this sentence to refer to Hermogenes I would have the reader note, as it appears to illustrate a fairly common medieval usage.

³⁶ II, 9.

astrological treatises.³⁷ Jourdain did not duly appreciate the great hold which astrology already had in the twelfth century, but it is nevertheless true that in the new Aristotle astrology found further support.

Astrology crops out here and there in most of the spurious works extant under Aristotle's name, just as it does in the medieval learning everywhere. One section of a dozen pages in the *Theology* discusses the influence of the stars upon nature and the working of magic by making use of these celestial forces and the natural attraction which things have for one another. It regards artificial magic as a fraud, but natural and astrological magic as a reality. However, it is only the animal soul which is affected by magic and the man of impulse who is moved thereby; the thinking man can free himself from its influence by use of the rational soul. In the treatise, *De pomo*,³⁸ which seems not to have been translated into Latin until the thirteenth century under Manfred,³⁹ Aristotle on his death bed, holding in his hand an apple from which the treatise takes its title, is represented as telling his disciples why a philosopher need not fear death and repudiating the doctrines of the mortality of the soul and eternity of the universe. He also tells how the Creator made the spheres and placed lucid stars in each and gave them the virtue of ruling over this inferior world and causing good and evil and life or death. They do not, however, do this of themselves, but men at first thought so and erroneously worshiped the stars until the time of Noah who was the first to recognize the Creator of the spheres.⁴⁰

³⁷ *Excursions historiques*, etc., p. 562.

³⁸ I have read it in an incunabulum edition numbered IA.49867 in the British Museum.

³⁹ *Ibid.*, fols. 21v-23r, "Nos Manfredus divi augusti imperatoris frederici filius dei gratia princeps tharentinus honoris montis sancti angeli dominus et illustris regis conradi servi in regno sicilie baiulus . . . quem librum cum non inveniretur inter cristianos, quoniam eum in ebrayco legimus translatum de arabico in hebreum, sanitate rehabilita ad eruditionem multorum et de hebrea lingua transtulimus in latinam in quo a compilatore quedam recitabilia inseruntur. Nam dictum librum aristotiles non notavit sed notatus ab aliis extitit qui causam hylaritatis seu mortis discere voluerunt sicut in libri serie continentur."

⁴⁰ Edition No. IA.49867 in the British Museum, fols. 25v-26r.

There are also attributed to Aristotle treatises primarily astrological. A "Book on the Properties of the Elements and of the Planets" is cited under his name by Peter of Abano at the end of the thirteenth century in his work on poisons,⁴¹ by Peter d'Ailly in his *Vigintiloquium*⁴² written in 1414, and by Pico della Mirandola, who declares it spurious, in his work against astrology written at the close of the fifteenth century. D'Ailly and Pico cite it in regard to the theory of great conjunctions; Abano, for a tale of Socrates and two dragons which we shall repeat later. It is probable that all these citations were from the paraphrase of and commentary on the work by Albertus Magnus⁴³ who accepted it as a genuine writing of Aristotle.

In a manuscript of the Cotton collection in the British Museum is a work of some length upon astrology ascribed to Aristotle.⁴⁴ After a discussion of general principles in which the planets, signs, and houses are treated, there are separate books upon the subjects of nativities,⁴⁵ and of elections and interrogations.⁴⁶ In a Paris manuscript a treatise on interrogations is ascribed in a marginal heading to "Aristoteles Milesius, a Peripatetic physician."⁴⁷ In the Cotton Manuscript in commentaries which then follow, and which are labelled as commentaries "upon the preceding treatise" Ptolemy is mentioned rather than Aristotle.⁴⁸ In an astrological manuscript of the fifteenth century at Grenoble written in French, works of Messahala and

⁴¹ Cap. 4.

⁴² Verbum 4.

⁴³ *De causis et proprietatibus elementorum*, IX, 585-653 in Borgnet's edition of Albert's works; Albert himself in his treatise on Minerals cites the title as "Liber de causis proprietatum elementorum et planetarum."

⁴⁴ Cotton Appendix VI, fol. 8r, "liber iste est aristotelis in scientia ipsius astronomie."

⁴⁵ fol. 11v, "Alius liber de nativitatibus"; opens, "Superius prout potuimus promissorum partem explevimus."

⁴⁶ fol. 13r, "De electionibus alius liber;" opens, "Unde constellationibus egyptios imitantes nativitates satis dilucide dixerimus." This book intermingles the subjects of interrogations and elections, and ends at fol. 20v, "Finit liber de interrogationibus."

⁴⁷ BN 16208, fol. 76r—, "liber arystotelis milesii medici perypathetici in principiis iudiciorum astronomorum in interrogationibus."

⁴⁸ Cotton Appendix VI, fol. 20v, "Incipit commentum super praemissa scilicet praedictum librum" fol. 23v, "Expositio ad litteram superioris tractatus. Ptolomaeus summus philosophus et excellentissimus egyptiorum rex. . . ."

Zaë translated for Charles V of France are preceded by "a book of judicial astrology according to Aristotle," which opens with "the preface of the last translator," and is in four parts.⁴⁹ Perhaps both the above-mentioned manuscripts contain, like a third manuscript at Munich, "The book of judgments which is said by Albert in his *Speculum* to be Aristotle's."⁵⁰ This work also occurs in a manuscript at Erfurt.⁵¹ Roger Bacon was much impressed by an astrological treatise ascribed to Aristotle entitled *De impressionibus coelestibus*, and told Pope Clement IV that it was "superior to the entire philosophy of the Latins and can be translated by your order."⁵²

A treatise found in two manuscripts of the Bodleian Library bears the titles, *Commentary of Aristotle on Astrology* and *The book of Aristotle from two hundred and fifty-five volumes of the Indians, containing a digest of all problems, whether pertaining to the sphere or to genethliology*.⁵³ From the text itself and the preface of Hugh Sanctellensis, the twelfth century translator from Arabic into Latin, addressed to his lord, Michael, bishop of Tarazona, we see that the work is neither entirely by Aristotle nor from the books of the Indians but is a compilation by someone who draws or pretends to draw from some 250 or 255 books⁵⁴ of the philosophers, including in addition to treatises by both Aristotle and the Indians, 13 books by Hermes, 13 by Doronius (Dorotheus?), 4 by Ptolemy, one by Democritus, two by Plato, 44 by the Babylonians, 7 by Antiochus, and others by authors whose names are unfamiliar to me and probably misspelled in

⁴⁹ Grenoble 814, fols. 1-24. "Cy commence le livre de jugemens d'astrologie selon Aristote. Le prologue du derrenier translateur. Aristote fist un livre de jugemens. . . ."

⁵⁰ CLM 25010, 15-16th century, fols. 1-12, "liber de iudiciis qui ab Alberto in Speculo suo dicitur esse Aristotelis."

⁵¹ Amplon. Quarto 377, 14th century, fols. 25-36, de iudiciis astrorum. Schum identifies it with the work ascribed to Aristotle by Albert in the *Speculum astronomiae*.

⁵² Bridges (1897) I, 381, 389-90; Brewer (1859) p. 473.

⁵³ Digby, 159, 14th century, fols. 87, mutilated at the end. "Liber Aristotelis de ducentis lviqve Indorum voluminibus, universalium questionum tam genecialium quam circularium summam continens." At fol. 5v, "Explicit prologus. Incipit Aristotelis commentum in astrologiam." This is the MS which I have chiefly followed.

Savile Latin 15 (Bernard 6561), 15th century, fols. 185-204v, is similar.

⁵⁴ In the text the number is given as ccl; see Digby 159, fol. 2r.

the manuscripts. In one of the works of Aristotle of which the present work is supposed to make use, there are said to have been described the nativities of twelve thousand men, collected in an effort to establish an experimental basis for astrology.⁵⁵ It is not so surprising that the present work bears Aristotle's name, since Hugh had promised his patron Michael, in the prologue to his translation of the *Geometry* of Hanus ben Hanne,⁵⁶ that if life endured and opportunity was given he would next set to work as ordered by his patron, not only upon Haly's commentaries on the *Quadripartite* and *Almagest* of Ptolemy, but also upon a certain general commentary by Aristotle on the entire art of astrology.

The *Secret of Secrets* of the pseudo-Aristotle is immediately followed in one manuscript by chapters or treatises addressed to Alexander and entitled, *Of ideas and forms*, *Of the impression of forms*, and *Of images and rings*.⁵⁷ The theory, very like that of Alkindi, is maintained that "all forms are ruled by supercelestial forms through the spirits of the spheres" and that incantations and images receive their force from the spheres. The seven planets pass on these supercelestial ideas and forms to our inferior world. By selecting proper times for operating one can work good or ill by means of the rays and impressions of the planets. The scientific investigator who properly concentrates and fixes intent, desire, and appetite upon the desired goal can penetrate hidden secrets of secrets and occult science both universal and particular. The writer goes on to emphasize the importance of understanding all the different positions and relationships of the heavenly bodies and also the distribution of terrestrial objects under the planets. He then describes an astrological image which will cause men to reverence and obey you, will repel your enemies in terror, afflict the envious, send visions, and perform other marvelous and stupefying feats too numerous to mention.

⁵⁵ Digby 159, fol. 2r.

⁵⁶ Savile 15, fol. 205r.

⁵⁷ Bodleian 67 (Bernard 2136), 14th century, fol. 54r, *De ydeis et formis*; fol. 54v, *De impressione formarum*; fol. 56v, *De ymaginibus et annulis*. This last item, though noted in Bernard, is or was omitted in the proof sheets of the new Summary Catalogue of Bodleian MSS now in preparation.

As the *Speculum astronomiae* of Albertus Magnus listed a *Book of Judgments* by Aristotle among deserving works of astronomy and astrology, so in its list of evil books dealing with necromantic images appear a treatise by Hermes addressed to Aristotle and opening, "Aristotle said, 'You have seen me, O Hermes,' " and a treatise ascribed to Aristotle with the sinister title, *Death of the Soul*, opening, "Said Aristotle to King Alexander, 'If you want to perceive.' " This treatise the *Speculum* calls "the worst of all" the evil books on images. Roger Bacon, too, alludes to it by title as filled with figments of the Magicians, but does not name Aristotle as author.⁵⁸ Peter of Abano in his *Lucidator* follows the *Speculum astronomiae* in listing it among depraved, obscene, and detestable works.⁵⁹

Alexander himself, as well as Aristotle, had some medieval reputation as an astrologer. In the tenth and eleventh century manuscripts of the *Mathematica* of Alhandreus, supreme astrologer, "Alexander of Macedon" was more than once cited as an authority, and there were also given "Excerpts from the books of Alexander, astrologer, king," and a "Letter of Argafalan to Alexander." Different from this, moreover, was the *Mathematica* of Alexander, supreme astrologer, found in a thirteenth century manuscript, in which from the movements of the planets through the signs one is instructed how to foretell prosperous and adverse journeys, abundance and poverty, misfortune or death of a friend, or to discover stolen articles, sorceries, buried treasure and so forth.⁶⁰ A treatise on seven herbs related to the seven planets is sometimes ascribed to Alexander,⁶¹

⁵⁸ Brewer (1859) p. 532, *De secretis*, cap. 3.

⁵⁹ BN 2598, fol. 101r, "liber quem Aristoteles attribuit Alexandro et quem nonnulli mortis intitulent anime."

⁶⁰ Ashmole 369, late 13th century, fols. 77-84v, "Mathematica Alexandri summi astrologi. In exordio omnis creature herus huranicus inter cuncta sidera xii maluit signa fore / nam quod lineam designat eandem stellam occupat. Explicit." Cap. x, de inveniendis de prospero aut adverso itinere; xi, de copia et paupertate; xiv, de nece aut casu amici; xvi, de latrocinio inveniendis; xxiv, de pecunia in terra defossa; xxxviii, de noscendis maleficiis.

⁶¹ In the preface to the *Kiranides*; in Montpellier 277, 15th century; and in Ashmole 1448, 15th century, pp. 44-45, "Virtutes 7 herbarum a septem planetis secundum Alexandrum Imperatorem." It is also embodied in some editions and MSS of the *Liber aggregationis* or *Experimenta* attributed to Albertus Magnus, where it is entitled, "Virtutes herbarum septem secundum Alexandrum Imperatorem."

but perhaps more often to Flaccus Africanus, and at least once to Aristotle.⁶²

The association of astrological images with spirits of the spheres in one of the above-mentioned works ascribed to Aristotle has already brought us to the border-line of our next topic, Aristotle and spirits. Under this caption may be placed a work found in a fifteenth century manuscript.⁶³ It also is in part astrological and is associated with the name of Hermes as well as of Aristotle. Its title runs, *The book of the spiritual works of Aristotle, or the book Antimaquis, which is the book of the secrets of Hermes: wonderful things can be accomplished by means of this book and 'tis the ancient book of the seven planets.* The treatise opens, "To every people and clime pertains a group of spirits." It then maps out these regions of different spirits in accordance with the planets and signs of the zodiac. Apparently this is the same work as that which Hunain ibn Ishak translated into Arabic and of which he says, "Among the works of Aristotle which we have found and translated from Greek into Arabic was *The book of the Causes of Spirituals* which has Hermes for author. . . . It is the book in which Aristotle treats of the causes of spirituals, talismans, the art of their operation, and how to hinder it, ordered after the seven climates."⁶⁴ It was probably some such spurious work that William of Auvergne had in mind when he spoke of Aristotle's boast that a spirit had descended unto him from the sphere of Venus.⁶⁵

No genuine work of Aristotle on vegetables or minerals has come down to us to accompany his celebrated *History of Animals*, but supposititious writings were soon found by the Arabs to fill this gap. On plants a brief treatise by Nicolaus Damascenus passed for Aristotle's. Alfred of Sarchel translated it from Arabic into Latin,⁶⁶ presumably before the close of the twelfth

⁶² Ashmole, 1741, late 14th century, fol. 143, "Incipiunt virtutes septem herbarum Aristotilis. Et has quidam virtutes habent ipse septem herbe ab ab influenza 7 planetarum. Nam contingit unamquamque recipere virtutem suam a superioribus naturaliter. Nam dicit Aristotelis quod corpora inferiora reguntur per superiora.

⁶³ Sloane 3854, 15th century, fols. 105v-110.

⁶⁴ E. Blochet, "Études sur le Gnosticisme musulman," in *Rivista degli studi orientali*, IV, 76.

⁶⁵ *De universo*, II, ii, 39 and 98; II, iii, 6.

⁶⁶ One MS is Harleian 3487, 14th century, No. 11.

century, since he dedicated it to Roger of Hereford, and Albertus Magnus expanded its two short books into seven long ones in his *De vegetabilibus et plantis*. There also existed in Arabic a *Lapidary* ascribed to Aristotle,⁶⁷ which was cited as early as the ninth century by Costa ben Luca. Ruska believes the work to be of Syrian and Persian origin,⁶⁸ although one Latin text professes to have been originally translated from Greek into Syriac.⁶⁹ Valentin Rose regarded it as the basis of all subsequent Arabic mineralogy, but found only two Latin manuscripts of it.⁷⁰ Albertus Magnus in his *Minerals* confesses that, although he had sought diligently in divers regions of the world, he had seen only excerpts from Aristotle's work. But another writer of the thirteenth century, Arnold of Saxony, cites translations of Aristotle on stones both by "Diascorides," which would seem sheer nonsense, and by Gerard, presumably of Cremona. Gerard's translation occurs in one of Rose's manuscripts; the other seems to give a version translated from the Hebrew.

In Gerard's translation, a work marked by puerile Latin style, the *Lapidary* of Aristotle is about equally devoted to marvelous properties of stones and tales of Alexander the Great. After some general discussion of stones and their wonderful properties, particular gems are taken up. The *gesha* brings misfortune. Its wearer sleeps poorly, has many worries, many altercations and law-suits. If it is hung about a boy's

⁶⁷ V. Rose, "Aristoteles de lapidibus und Arnoldus Saxo," in *Zeitschrift für deutsches Alterthum*, XVIII (1875) 321 et seq. More recently the *Lapidary* of Aristotle has been edited by J. Ruska, *Das Steinbuch des Aristoteles, nach der arabischen Handschrift*, Heidelberg, 1912, who gives both the Latin of the Liège MS and the text of the translation into Arabic by Luca ben Serapion from BN 2772, with a German translation of it.

⁶⁸ Ruska (1912) p. 43.

⁶⁹ Ibid. p. 183, "Et ego transfero ipsum ex greco sermone in ydyoma su(r)-orum vel Syrorum."

⁷⁰ Liège 77, 14th century; printed by Rose (1875) pp. 349-82.

Montpellier 277, 15th century, fol. 127-; printed by Rose (1875) pp. 384-97.

The following treatises, also ascribed to Aristotle, I have not examined: Sloane 2459, 15th century, fols. 9v-16, de proprietatibus herbarum et lapidum; Vienna 2301, 15th century, fols. 81-2, "Isti sunt lapides quorum virtutes misit Aristotiles in scriptis maximo imperatori Alexandro." Perhaps the last may have reference to philosopher's stones, like the similar treatise of Aristotle to Alexander noted above in our discussion of the pseudo-Aristotelian alchemical treatises.

neck, it makes him drivel. "There is great occult force" in the magnet, and instructions are given how to set water on fire with it. Several stones possess the property of neutralizing spells and counteracting the work of demons. With another stone the Indians make many incantations. Vultures were the first to discover the virtue of the stone *filcrum coarton* in hastening delivery. When a female vulture was near death from the eggs hardening in her body, the male flew off to India and brought back this stone which afforded instant relief. Another stone is so soporific that suspended about the neck it induces a sleep lasting three days and nights, and the effects of which are thrown off with difficulty even on the fourth day, when the sleeper will awake but act as if intoxicated and still seem sleepier than anyone else. Another stone prevents a horse from whinnying, if suspended from his neck.

Other gems suggest stories of Alexander. Near the frontier of India in a valley guarded by deadly serpents whose mere glance was fatal were many precious gems. Alexander disposed of the serpents by erecting mirrors in which they might stare themselves to death, and he then secured the gems by employing the carcasses of sheep in a manner already described by Epiphanius. A somewhat similar tale is told of Socrates by Albertus Magnus in his commentary on the pseudo-Aristotelian work on the properties of the elements and planets.⁷¹ In the reign of Philip of Macedon, who is himself described as a philosopher and astronomer, the road between two mountains in Armenia became so poisoned that no one could pass. Philip vainly inquired the cause from his sages until Socrates came to the rescue and, by erecting a tower as high as the mountains with a steel mirror on top of it, saw two dragons polluting the air. The mere glance of these dragons was apparently not deadly, for men in air-tight armor went in and killed them. The same story is told by William of St. Cloud, who composed astronomical tables based upon his own observations from about 1285 to 1321, in which he detected errors in the earlier tables of Thebit, Toulouse, and Toledo.⁷² In Peter of Abano's treatise on poi-

⁷¹ *De causis elementorum*, etc., II, ii, 1 (Borgnet, IX, 643).

⁷² *Histoire Littéraire de la France*, XXV, 65.

sons,⁷³ however, although he too cites the pseudo-Aristotle on the causes of the elements, the mirror has become a glass cave in which Socrates ensconces himself to observe the serpents. A *Lapidary* dedicated to King Wenzel II of Bohemia tells of Socrates' killing a dragon by use of quicksilver.⁷⁴ That Socrates also shared the medieval reputation of Aristotle and Plato for astrology and divination is seen from the *Prenostica Socratis Basilei*, a mode of divination found in the manuscripts.

Similar to Abano's tale of Socrates in the glass cave is the story told a century earlier by Alexander Neckam of Alexander himself. So sedulous an investigator of nature was the Macedonian, says Neckam, that he went down in a glass vessel to observe the natures and customs of the fishes. He would seem to have remained submerged for some time, since Neckam informs us that he took a cock with him in order to tell when it was dawn by the bird's crowing. This primitive submarine had at least a suggestion of war about it, since Neckam goes on to say that Alexander learned how to lay ambushes against the foe by observing one army of fishes attack another. Unfortunately, however, Alexander failed to commit to writing his observations, whether military or scientific, of deep-sea life; and Neckam grieves that very few data on the natures of fishes have come to his attention.⁷⁵

Neckam's account differs a good deal from the story as told by the Arabian historian, Mas'ûdi, in the tenth century. There we read that, when Alexander was building the city of Alexandria, monsters came from the sea every night and overthrew the walls that had been built during the day. Night watchmen proved of no avail, so Alexander had a box made ten

⁷³ *De venenis*, ca. 5; probably written in 1316.

⁷⁴ Aristotle, *Lapidarius et Liber de physionomia*, Merszborg, 1473, p. 8.

⁷⁵ *De naturis rerum*, II, 21. In an illustrated 13th century MS of the vernacular Romance of Alexander three pictures are devoted to his submarine. CU Trinity 1446, 1250 A. D., fol. 27r, "Comment Alisandre vesqui suz les ewes; a covered ship with windows under green water, Alexander and three men in it; fol. 27v, Des nefz ke sont apelees colifas; a similar ship in the water, no one visible in it; Coment Alisandre encercha la nature de peissons; Alexander and two men in the ship, fish and mermaid below." I have quoted James' description of the MS (III, 488). See also the volume of Lacroix on Science and Literature in the Middle Ages, fig. 87, for a view of Alexander descending to the bottom of the sea in a glass cask, from a 13th century MS.

cubits long and five wide, with glass sides fastened into the frame work by means of pitch and resin. He then entered the box with two draughtsmen, who, after it had been let down to the bottom of the sea, made exact drawings of the monsters, who had human bodies but the heads of beasts. From these sketches Alexander had images constructed and placed on pillars, and these magic figures served to keep off the monsters until the city was completed. But the effect apparently began to wear off and talismans had to be added on the pillars to prevent the monsters from coming and devouring the inhabitants, as they had begun to do again.⁷⁶ Another Arab, Abu-Shâker, of the thirteenth century, repeats a current tradition that Aristotle gave Alexander a box of wax soldiers which were nailed, with inverted spears and swords and severed bow-strings, face-downwards in the box, which in its turn was fastened by a chain. As long as the box remained in Alexander's possession and he repeated the formulae which Aristotle taught him whenever he took the box up or put it down, he would triumph over his foes in war.⁷⁷ This reminds one of the methods of warfare employed by Alexander's fabled natural father, Nectanebus.

While we are speaking of military matters, it may be noted that in a manuscript of the thirteenth century which once belonged to an Albertus Bohemus or Beham, dean of the church at Padua and seems to have been his note-book, we find between the *Secret of Secrets* of the pseudo-Aristotle and a treatise on the significations of the moon in the signs "a delineation of a brazen horn made with marvelous art by which Alexander in time of war summoned his army from a distance of sixty miles."⁷⁸

But to return to other tales of Alexander in the *Lapidary*. Once he saw afar enchanters and enchantresses who slew and wounded the men of his army by their diabolical power until Alexander prayed to God who revealed two stones which counter-acted the sorcery. On another occasion when by Alexander's order his barons had carried off certain gems, during the night following they suffered much insult from demons and were sore afraid, since sticks and stones were thrown about the camp by

⁷⁶ Budge, *Egyptian Magic*, 1899, pp. 152-6; Mas'ûdî, *Les Prairies d'Or*, ed. B. de Maynard and Pavet de Courteille, 1861, II, 425 ff.

⁷⁷ Budge (1899) pp. 95-6.

⁷⁸ CLM 2574b, bombyc. 13th century, fol. 69v.

unseen hands and men were beaten without knowing whence the blows came. It thus became apparent that the demons cherished those gems as their especial property and were accustomed to perform occult operations with them of which they did not wish men to learn the secret. Alexander found that these gems would protect him from any beast, serpent, or demon, although the nocturnal experience of his barons would scarcely seem to support this last point. On a third occasion his army were held motionless and gazed open-mouthed at certain stones, until a bird fluttered down and covered the gems with its outstretched wings. Then Alexander had his followers close their eyes and carry the stones away under cover and place them on top of the wall of one of his cities so that no one might scale the wall to spy upon the town.

Yet another curious story of Alexander and a stone is repeated by Peter of Abano in his work on poisons from a treatise "On the Nature of Serpents" which he ascribes to Aristotle. Alexander always wore a certain stone in his belt to give him good luck in his battles, but on his return from India, while bathing in the Euphrates, he removed the belt, whereupon a serpent suddenly appeared, bit the stone out of the belt, and vomited it into the river. Deprived of his talisman, Alexander presently met his death.⁷⁹

Another *Lapidary*, printed as Aristotle's at Merseburg in 1473, is really a compilation of previous medieval works on the subject with the addition of some items derived from the personal knowledge or experience of the author. It was composed "to the honor of almighty God and the glory and perpetual memory of that virtuous and most glorious prince, Wenzel II, King of Bohemia" (1278-1305). As the treatise itself states,

⁷⁹ Very similar is the story in the Gilgamesh epic, a work "far more ancient than Genesis," of a serpent stealing a life-giving plant from Gilgamesh while he was bathing in a well or brook. The plant, which had been revealed to Gilgamesh by the deified Ut-napishtim, "had the miraculous power of renewing youth and bore the name 'the old man becomes young.' " Sir James Frazer (*Folk-Lore in the Old Testament*, 1918, I, 50-51) follows Rabbi Julian Morgenstern ("On Gilgamesh-Epic, XI, 274-320," in *Zeitschrift f. Assyriologie*, XXIX, 1915, p. 284 ff.) in connecting this incident with the serpent and tree of life in the Biblical account of the fall of man, and gives further examples from the folklore of primitive peoples of other jealous animals, such as the dog, frog, duck, and lizard, perverting divine good tidings or gifts to man to their own profit.

"the Lapidary of Aristotle in the recent translation from the Greek" is only one of its sources along with Avicenna, Constantinus Africanus, Albertus Magnus, and others.

Another work which claims Aristotelian authorship only in its title is the *Chiromancy of Aristotle*, printed at Ulm in 1490, which quotes freely from Albertus Magnus and Avicenna. There are also brief tracts on chiromancy ascribed to Aristotle in manuscripts of the thirteenth or fourteenth century,⁸⁰ Förster has identified Polemon as the author of the Greek treatise on physiognomy ascribed to Aristotle.⁸¹ The art of physiognomy of course professed to read character from the face or other parts of the body, and chiromancy which we have just mentioned is really a branch of it. In Latin translation the treatise was accepted as Aristotle's by such medieval schoolmen as Albertus Magnus and Duns Scotus. There are many manuscripts of it in the British Museum, including one which perhaps dates back to the twelfth century.⁸² Its popularity continued long after the invention of printing, as is shown by separate editions of it brought out at Paris in 1535 and at Wittenberg in 1538, and by commentaries upon it⁸³ published at Paris in 1611, at Bologna in 1621, and at Toulouse in 1636. Besides such separate manuscripts and editions of it, it was also regularly embodied in the numerous copies of the pseudo-Aristotelian work to which we next turn.

Most widely influential upon the medieval mind of all the spurious works attributed to Aristotle was the *Secret of Secrets*. Förster enumerated two hundred and seven Latin manuscripts of it and his list is probably far from complete.⁸⁴ Gaster calls it

⁸⁰ Sloane 2030, fols. 125-26; Additional 15236, fols. 154-60: BN, 7420A (14th century) No. 16.

⁸¹ Richard Förster, *De Aristotelis quae feruntur physiognomonicis recensendis*, Kiliae, 1882; *De transl. latin. physiognom.*, Kiliae, 1884; *Scriptores Physiognomici* Lipsiae, 1893-1894.

⁸² Cotton Julius D-viii, fol. 126 ff.; Harleian 3969; Egerton 847; Sloane 2030, fol. 95-103; Additional 15236, fol. 160 (in abbreviated form); Sloane 3281, fols. 19-23; Sloane 3584; Egerton 2852, fol. 115v. et seq.

⁸³ There is a manuscript copy of a commentary on it of the fourteenth century at Erfurt, Amplon. Quarto 186. See Schum's catalog for MSS. of the *Physiognomia* itself in the Amplonian collection.

⁸⁴ R. Förster, *De Aristotelis quae feruntur secreta secretorum Commentatio*, Kiliae, 1888; Handschriften und Ausgaben des pseudo-Aristotelischen *Secretum secretorum*, in *Centralblatt f. Bibliothekswesen*, VI (1889) 1-22, 57-76.

"The most popular book of the middle ages.⁸⁵ This is not surprising since it purports to sum up in concise form what the greatest of ancient philosophers deemed it essential for the greatest of ancient rulers to know, and since under the alluring pretense of revealing great secrets in parable and riddle it really masses together a number of the best-tested and most often repeated maxims of personal hygiene and practical philosophy, and some of the superstitious to which men have shown themselves most inclined. Every European library of consequence contains a number of copies of it. It was translated into almost every European language and was often versified, as in Lydgate's and Burgh's *Secrees of old Philisoffres*.⁸⁶ Albertus Magnus cited it as Aristotle's;⁸⁷ Roger Bacon wrote a rather jejune commentary upon it.⁸⁸ It was printed a number of times before 1500.⁸⁹

⁸⁵ M. Gaster, in his Introduction to a Hebrew version of the Secret of Secrets, in the *Journal of the Royal Asiatic Society*, (1908, part 2), pp. 1065-84; for the Hebrew text and an English translation, *Ibid.* (1907) pp. 879-913 and (1908, part 1) pp. 111-62.

⁸⁶ Ed. Robert Steele, EETS LXVI, London, 1894. Volume LXXIV contains three earlier English versions. There are numerous MSS of it in Italian in the Riccardian and Palatini collections at Florence.

⁸⁷ *De somno et vigilia*, I, ii, 7.

⁸⁸ Tanner 116, 13th century; Corpus Christi 149, 15th century. Recently edited, together with Bacon's peculiar arrangement of the text, by Robert Steele, 1902, as Fasc. V of his *Opera hactenus inedita Rogeri Baconi*.

⁸⁹ There are considerable discrepancies between the different early printed editions, which differ in length, order of arrangement, tables of contents, and number of chapters. And in the same edition the chapter headings given in the course of the text may not agree with those in the table of contents, which as a rule, even in the MSS, does not fully cover the subject-matter of the text. The different printers have probably used different manuscripts for their editions rather than made any new additions of their own. The following editions are those to which references will be made in the following pages.

An edition printed at Cologne about 1480, which I examined at the Harvard University Library, divides the text into only thirty chapters and seems imperfect.

An edition of about 1485, which I examined at the British Museum, where it was numbered IA.10756, has 74 chapters, and the headings of its 25th and 30th chapters, for instance, agree with those of the 11th and 13th chapters in the Harvard copy.

A third edition of Paris, 1520 has no numbered chapters and contains passages not found in the two earlier editions.

As a check upon these printed texts I have examined the three following MSS, two of the 13th, and one of the 14th century. Of these Egerton 2676

The *Secret of Secrets* is believed to be the outcome of a gradual process of compilation from very varied sources, and to have reached something like its present form by the seventh or eighth century of our era. But its chapters on physiognomy, as we have seen, go back to Polemon's treatise, and part of its medical discussion is said to be borrowed from Diocles Caristes who wrote about 320 B.C. Some Graeco-Persian treatise is thought to be the basis of its discussion of kingship. It is also believed to have appropriated bits from popular literature to its own uses. In Arabic there is extant both a longer and a shorter version, and Gaster has edited a Hebrew text which is apparently derived from a different Arabic original than any Latin text. The process of successive compilation, or at least, re-editing and repeated translation which the work underwent is suggested by a series of prologues which occur at the beginning. Following the preface of the Latin translator and the table of contents comes what is called "the prologue of a certain doctor in commendation of Aristotle,"⁹⁰ in which omnipotent God is prayed to guard the king and some anonymous editor states that he has executed the mandate enjoined upon him to procure the moral work on royal conduct called *The Secret of Secrets*, which Aristotle, chief of philosophers, composed. After some talk about Aristotle and Alexander a second prologue begins with the sentence, "John who translated this book, son of a patrician, most skilful and faithful interpreter of languages, says." This John appears to have been Yuhanna ibn el-Batriq and what he says is that he searched the world over until he came to an oracle of the sun which Esculapides had constructed. There he found a solitary abstemious sage who

corresponds fairly closely throughout to the edition numbered IA.10756 in the British Museum.

Egerton 2676, 13th century, fols. 3-52

BN 6584, 13th century, fols. 1r-32v

Bodleian 67, 14th century, fols. 1-53v, is much like the preceding MS.

⁹⁰ BN 6584, fol. 1v, "De prologo cuiusdam doctoris in commendatione aristotelis." See also Digby 228, 14th century, fol. 27, where a scribe has written in the upper margin, "In isto libello primo ponitur prologus, deinde tabula contentorum in libro, deinde prologus cuiusdam doctoris in commendationem Aristotelis, deinde prologus Iohannis qui transtulit librum istum. . . ." In Egerton 2676, fol. 6r, "Deus omnipotens custodiat regem. . . ."

presented him with this book which he translated from Greek into Chaldaic and thence into Arabic. This passage reminds one of Harpocraton's prefatory remarks to his daughter in the *Kiranides*; indeed, it is quite in the usual style of apocryphal writings.

In the matter of the Latin translation we are on somewhat more certain ground. John of Spain in the first half of the twelfth century seems to have translated only the medical portion.⁹¹ Manuscripts of this partial translation are relatively few,⁹² and it was presently superseded by the complete translation made either in the twelfth or early thirteenth century⁹³ by Philip, "the least of his clerics" for "his most excellent lord, most strenuous in the cult of the Christian religion, Guido of Valencia, glorious pontiff of the city of Tripoli." Philip goes on to say in his dedicatory preface that it was when he was with Guido in Antioch that they found "this pearl of philosophy, . . . this book which contains something useful about almost every science," and which it pleased Guido to have translated from Arabic into Latin. Although the various printed editions and manuscripts of the *Secret of Secrets* in Latin vary considerably, they regularly are preceded by this ascription of the Latin translation to Philip, and usually by the other prologues aforementioned. Who this Philip was, other than a cleric of Tripoli, is still undetermined. If he was the same as the papal physician whom Alexander III in 1177 proposed to send on a mission to Prester John, he had probably made his translation before that date. J. Wood Brown would identify him with Philip of Salerno,

⁹¹ Steinschneider (1905) p. 42, it is true, says, "Ob Joh. selbst das ganze Secretum übersetzt habe, ist noch nicht ermittelt;" but the following passage, cited by Giacosa (1901) p. 386 from Bibl. Angelica Rome, Cod. 1481, 12th century, fols. 144-146v, indicates that he translated only the medical part.

"Cum de utilitate corporis olim tractarim et a me quasi essem medicus vestra nobilitas quereretur ut brevem libellum et de observatione dietæ et de continentia cordis in qualibus se debent contineri qui sanitatem corporis cupiunt servare accidit ut dum cogitarem vestre iussioni obedire huius rei exemplar aristotelis philosophi Alexandro dictum repente in mente occurreret quod excerpti de libro qui arabice vocatur ciralacerar id est secretum secretorum que fecit fieri predictus Aristotelis philosophus Alexandro regi magno de dispositione regni in quo continentur multa regibus utilia. . . ."

⁹² Ed. H. Souchier, *Denkmäler provenzal Lit.*, Halle, 1883, I, 473 et seq.

⁹³ Thirteenth century MSS of Philip's translation are numerous: I have not noted a 12th century one.

a royal notary whose name appears in 1200 on deeds in the kingdom of Sicily.⁹⁴

Returning to Philip's preface to Guido, it may be noted that he states that Latins do not have the work and it is rare among the Arabs.⁹⁵ His translation is a free one since the Arabic idiom is different from the Latin. Aristotle wrote this book in response to the petition of King Alexander his disciple who demanded that Aristotle should either come to him or faithfully reveal the secrets of certain arts, namely, the motion, operation, and power of the stars in astronomy, the art of alchemy, the art of knowing natures and working enchantments, and the art of geomancy. Aristotle was too old to come in person, and although it had been his intention to conceal in every way the secrets of the said sciences, yet he did not venture to contradict the will and command of so great a lord. He hid some matters, however, under enigmas and figurative locutions. For Alexander's convenience he divided the work into ten books, each of which is divided into chapters and headings. Philip adds that for his readers' convenience he has collected these headings at the beginning of the work and a table of contents follows.^{95a} Then come the two older prologues which we have already described, next a letter of Aristotle to Alexander on the extrinsic and intrinsic

⁹⁴ Brown (1897) pp. 19-20, 36-7. But not much reliance can be placed on the inclusion of this name "Master Philip of Tripoli" in a title which Brown (p. 20) quotes from a De Rossi MS, "The Book of the Inspections of Urine according to the opinion of the Masters, Peter of Berenico, Constantine Damas-cenus, and Julius of Salerno; which was composed by command of the Emperor Frederick, Anno Domini 1212, in the month of February, and was revised by Master Philip of Tripoli and Master Gerard of Cremona at the orders of the King of Spain" etc., since Gerard of Cremona at least had died in 1187 and there was no "king of Spain" until 1479.

Brown does not give the Latin for the passage, but if the date 1212 could be regarded as Spanish era and turned into 1174 A.D., Gerard of Cremona would still be living, the emperor would be Frederick Barbarossa instead of Frederick II, and Master Philip of Tripoli might be the same Philip whom Pope Alexander III proposed to send to Prester John in 1177.

⁹⁵ BN 6584, fol. 1r, "Hunc librum quo carebant latini eo quod apud paucissimos arabes reperitur transtuli cum magno labore. . . ." A considerable portion of Philip's preface is omitted in the Harvard edition.

^{95a} The preliminary table of contents, however, gives only chapter headings, which in BN 6584 are 82 in number, but the beginnings of the ten books are indicated in the text in BN 6584 as follows. The numbers in parentheses

sic causes of his work,⁹⁶ and then with a chapter which is usually headed *Distinctio regum* or *Reges sunt quatuor* begins the discussion of kingship which is the backbone of the work.

It is evident from Philip's preface that occult science also forms a leading feature in the work as known to him. Gaster, who contended that the Hebrew translation from the Arabic which he edited was as old as either John of Spain's or Philip's Latin translations, although the oldest of the four manuscripts which he collated for his text is dated only in 1382 A.D., made a rather misleading statement when he affirmed, "Of the astrology looming so largely in the later European recensions the Hebrew has only a faint trace."⁹⁷ As a matter of fact some of the printed editions contain less astrology than the thirteenth century manuscripts, while Gaster's Hebrew version has much more than "a faint trace" of astrology. But more of this later.

On the other hand, I cannot fully subscribe to Steinschneider's characterization of *The Secret of Secrets* as "a wretched compilation of philosophical mysticism and varied superstition."⁹⁸ Of superstition there is a great deal, but of philosophical mysticism there is practically none. Despite the title and the promise in Philip's preface of enigmatic and figurative language, the tone of the text is seldom mystical, and its philosophy is of a very practical sort.

are the corresponding leaves in Bodleian 67 which, however, omits mention of the book and its number except in the case of the fourth book.

fol. 3v(5r), Incipit liber primus. Epistola ad Alexandrum

fol. 6r, Secundus liber de dispositione Regali et reverentia Regis

Fol. 12r (18v), Incipit liber tertius. Cum hoc corpus corruptibile sit eique accidit corruptio. . . .

fol. 22r (36r), Incipit liber quartus. transtulit magister philippus tripolitanus de forma iusticie

fol. 28r (44v), Liber Quintus de scribis et scriptoribus secretorum

fol. 28r (45r), Liber Sextus de nuntiis et informationibus ipsorum

fol. 28v (46v), Liber Septimus de hiis qui sr' intendunt et habent curam subditorum

fol. 29r (47r), Liber Octavus de dispositione ductoris sui et de electione belatorum et procerum inferiores.

fol. 29v (48r), Liber Nonus de regimine bellatorum et forma aggrediendi bellum et pronationibus eorumdem

fol. 30v (50v), Sermo de phisionomia cuiuslibet hominis.

⁹⁶ It is omitted in some printed editions but occurs in both 13th century MSS which I examined.

⁹⁷ Gaster (1908) p. 1076.

⁹⁸ Steinschneider (1905) p. 60.

Nor can *The Secret of Secrets* be dismissed as merely "a wretched compilation." Those portions which deal with kingcraft and government display shrewdness and common sense, worldly wisdom and knowledge of human nature, are not restricted by being written from any one premise or view-point, and often evince real enlightenment. Those historians who have declared the love of fame a new product of the Italian Renaissance should have read the chapter on fame in this most popular book of the middle ages, where we find such statements as that royal power ought not to be desired for its own sake but for the sole purpose of achieving fame. Other noteworthy utterances indicative of the tone and thought of the book are that "the intellect . . . is the root of all things praiseworthy"; that kings should cultivate the sciences; that liberality involves respect for other's property; that "war destroys order and devastates the lands and turns everything to chaos"; that no earthly ruler should shed blood, which is reserved for God alone, but limit his punishments to imprisonment, flogging, and torture; that the king, as Chief Justice Coke later told James I, is under the law; that taxes upon merchants should be light so that they will remain in the country and contribute to its prosperity; that his people are a king's true treasury and that he should acquaint himself with their needs and watch over their interests.

From the medical passages of the book one would infer that the art of healing at first developed more slowly than the art of ruling in the world's history. The medical theory of the *Secret of Secrets* is not of an advanced or complex sort, but is a combination of curious notions such as that vomiting once a month is beneficial and sensible ideas such as that life consists of natural heat and that it is very important to keep the abdomen warm and the bowels moving regularly. The well-known apothegm of Hippocrates is quoted, "I would rather eat to live than live to eat."

Much of the advice offered to Alexander by Aristotle in *The Secret of Secrets* is astrological. Among those studies which the king should promote the only one specifically mentioned is astrology, which considered "the course of the year and of the stars, the coming festivals and solemnities of the month, the course of the planets, the cause of the shortening and lengthening of days and nights, the signs of the stars which determine the future and many other things which pertain to prediction of

the future.⁹⁹ Alexander is adjured "not to rise up or sit down or eat or drink or do anything without consulting a man skilled in the art of astronomy."¹⁰⁰ Later the two parts of astronomy are distinguished, that is astronomy and astrology in our sense of the words. Alexander is further warned to put no faith in the utterances of those stupid persons who declare that the science of the stars is too difficult to master. No less stupid is the argument of others who affirm that God has foreseen and foreordained everything from eternity and that consequently all things happen of necessity and it is therefore of no advantage to predict events which cannot be avoided. For even if things happened of necessity, it would be easier to bear them by foreknowing and preparing for them beforehand, just as men make preparations against the coming of a cold winter—the familiar contention of Ptolemy. But *The Secret of Secrets* also believes that one should pray God in his mercy to avert future evils and ordain otherwise, "For He has not so ordained things that to ordain otherwise derogates in any respect from his Providence." But this is not so approved an astrological doctrine. Later in the work Alexander is once more urged never to take medicine or open a vein except with the approval of his astronomers,¹⁰¹ and directions are given as to the constellations under which bleeding should be performed and also concerning the taking of laxatives with reference to the position of the moon in the signs of the zodiac.¹⁰² Later the work discusses the relations of the four elements and of various herbs to the seven planets,¹⁰³ and in the next to last chapter Alexander is advised to conduct his wars under the guidance of astrology.¹⁰⁴

⁹⁹ Cap. 11 (Harvard copy); cap. 25 (BM. IA.10756); Egerton 2676, fol. 12r; BN 6584, fol. 9v.

¹⁰⁰ Cap. 13 (Harvard copy); cap. 30 (BM. IA.10756); Egerton 2676, fol. 13r; BN 6584, fol. 10r; also in Gaster's Hebrew text.

¹⁰¹ Egerton 2676, fol. 32r.; cap. 62 (BM. IA.10756); fol. xxxiiir. (Paris, 1520). BN 6584, fol. 19v.

¹⁰² The Paris, 1520 edition then goes on to explain the effects of incantations and images upon astrological grounds, but this passage seems to be missing from the earlier printed editions and the thirteenth century manuscripts. Roger Bacon, however, implies that incantations were present in Philip's original translation: Steele (1920) 258-9.

¹⁰³ This passage is found both in Egerton MS. 2676 and in BM. IA.10756. BN 6584, fol. 21r-v. Bodl. 67, fol. 32v-35v.

¹⁰⁴ Cap. 73 (BM. IA.10756); fols. 44v-45r. (Paris, 1520). BN 6584, fol. 30v.

There is much indulging in astrological theory in the midst of the chapter on Justice, and the constitution of the universe is set forth from the first and highest simple spiritual substance down through the nine heavens and spheres to the lowest inferiors. To illustrate the power of the stars the story is presently told of two boys,¹⁰⁵ one a weaver's son, the other a royal prince of India. Sages who were chance guests in the weaver's house at the time of the child's birth noted that his horoscope was that of a courtier high in royal councils but kept their discovery to themselves. The boy's parents vainly tried to make a weaver of him, but even beatings were in vain; he was finally allowed to follow his natural inclination, secured an education, and became in time a royal governor. The king's son, on the contrary, despite his royal birth and the fact that his father sent him through all his provinces to learn the sciences, would take no interest in anything except mechanics conformably to his horoscope.

In *The Secret of Secrets* the pseudo-Aristotle refers Alexander for the virtues of gems and herbs to his treatises on stones and plants, presumably those which we have already described. He does not entirely refrain from discussion of such marvelous properties in the present work, however, mentioning the use of the virtues of stones in connection with incantations. We also again hear of stones which will prevent any army from withstanding Alexander or which will cause horses to whinny or keep them from doing so; and of herbs which bring true or false dreams or cause joy, love, hate, honor, reverence, courage, and inertia.¹⁰⁶ One recipe reads, "If you take in the name of someone seven grains of the seeds of the herb called androsimon, and hold them in his name when Lucifer and Venus are rising so that their rays touch him (or them?), and if you give him those seven grains to eat or pulverized in drink, fear of you will ever abide in his heart and he will obey you for the rest of his life."¹⁰⁷ Astrological images are discussed at least in some versions.¹⁰⁸

The extreme powers attributed to herbs and stones in *The Secret of Secrets* aroused some skepticism among its Latin readers

¹⁰⁵ BN 6584, fol. 21r; also in Gaster's Hebrew version; cap. 26 in the Harvard copy.

¹⁰⁶ Gaster, pp. 116, 160-62; Egerton 2676, fols. 34r-35r; cap. 66 (BM. IA.10756); fol. 37v. (Paris, 1520). BN 6584, fol. 20r-22r.

¹⁰⁷ Egerton 2676, fol. 36v; BN 6584, fol. 22r.

¹⁰⁸ Paris (1520) fol. 37; Steele (1920) lxii, 157-63, 252-61; Gaster, p. 159.

of the thirteenth century.¹⁰⁹ Geoffrey of Waterford, a Dominican from Ireland who died about 1300, translated *The Secret of Secrets* into French. He criticized, however, its assertions concerning the virtues of stones and herbs as more akin to fables than to philosophy, a fact of which, he adds, all clerks who know Latin well are aware. He wonders why Alexander had to win his battles by hard fighting when Aristotle is supposed to inform him in this book of a stone which will always rout the enemy. Geoffrey decides that such false statements are the work of the translators and that Aristotle is the author only of what is well said or reasonable in the work.

Something is said in *The Secret of Secrets* of the occult properties and relative perfection of numbers, and as usual the preference is for the numbers, three, four, seven, and ten.¹¹⁰ The Hebrew version adds a puerile method of divining who will be victor in a battle by a numerical calculation based upon the letters in the names of the generals. The treatment of alchemy is rather confusing and inconsistent. A recipe for the Philosopher's stone is given, but in some versions Alexander is warned that *Chimia* or *Kimia* is not a true science.¹¹¹

We may conclude our picture of the work's contents with two of its stories, namely, concerning the poisonous maiden and the Jew and the Magus. A beautiful maiden was sent from India to Alexander with other rich gifts. But she had been fed upon poison from infancy "until she was of the nature of a snake. And had I not perceived it," continues Aristotle in the Hebrew version, "for I suspected the clever men of those countries and their craft, and had I not found by tests that she would kill thee by her embrace and by her perspiration, she surely would have killed thee."¹¹² This venomous maiden is also alluded

¹⁰⁹ HL. XXI, 216 ff.

¹¹⁰ Caps. 68 and 72 (BM. IA.10756); cap. 68 appears in Egerton 2676; cap. 72 in Gaster's text and in the Paris (1520) edition. I could not find the passage in BN 6584.

¹¹¹ BN 6584, fol. 20r-v; Egerton 2676, fol. 33v.-34r.; cap. 65 (BM. IA. 10756); fols. 36v.-37r., and fol. 38r. (Paris, 1520); Gaster, 159-60. The warning against alchemy does not appear in the two 13th century MSS but only the printed edition of 1520 and Gaster's Hebrew version.

¹¹² Gaster, p. 127; cap. 12 (Harvard copy); also in BM. IA.10756, and BN 6584, fol. 10r, where Aristotle seems to detect the venomous nature of the maiden by magic art—"Et nisi ego illa hora sagaciter inspexissem in ipsam et arte magica iudicassem. . ."; while it is her mere bite that kills men, as Alexander afterwards proved experimentally.

to in various medieval discussions of poisons. Peter of Abano mentions her in his *De venenis*.¹¹³ Gilbert of England, following no doubt Gerard of Cremona's translation of Avicenna, cites Ruffus rather than the Pseudo-Aristotle concerning her and says nothing of her relations to Alexander, but adds that animals who approached her spittle were killed by it.¹¹⁴ In "Le Secret aux philosophes," a French work of the closing thirteenth century, where the story is told at considerable length, Socrates rather than Aristotle saves Alexander from the poisonous maid.¹¹⁵

In the other story a Magus is represented in a much more favorable light than magicians generally were; he seems to represent rather one of the Persian sages. He was traveling on a mule with provisions and met a Jew traveling on foot. Their talk soon turned to their respective religions and moral standards. The Magus professed altruism; the Jew was inclined to get the better of all men except Jews. When these principles had been stated, the Jew requested the Magus, since he professed to observe the law of love, to dismount and let him ride the mule. No sooner had this been done than the Jew, true to his law of selfishness and hate, made off with both mule and provisions. This misfortune did not lead the Magus to lose his faith in God, however, and as he plodded along he by and by came again upon the Jew who had fallen off the mule and broken his neck. The Magus then mercifully brought the Jew to the nearest town where he died, while the king of the country made the Magus one of his trusted ministers of state.¹¹⁶

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¹¹³ Cap. 3.

¹¹⁴ Gilbertus Anglicus, *Compendium medicinae*, Lyons, 1510, fol. 348v.

¹¹⁵ HL. XXX, 569 ff. "*Die Sage vom Giftmädchen*" is the theme of a long monograph by W. Hertz, *Gesammelte Abhandlungen* (1905) pp. 156-277.

¹¹⁶ BN 6584, fol. 27; IA. 10756, cap. 68; also in Paris, 1520 edition, etc. The various writers of the twelfth and thirteenth centuries who have been cited in this article, and the whole subject of medieval occult science, will be treated of more fully in my *History of Magic and Experimental Science and their Relation to Christian Thought during the first thirteen centuries of our era*, which is now in press.